

ABSTRACT OF THE DISCLOSURE

A system, device, and method for establishing and removing a label switched path in a communication network uses a packet-driven mechanism rather than using an explicit signaling protocol to exchange label switching information from an upstream label switching device to a downstream label switching device. In order to establish a label switched path from the upstream label switching device to the downstream label switching device, the upstream label switching device allocates a new label for the label switched path, sets up the label switched path by adding the new label to its forwarding table, and forwards a labeled packet including the new label and an indicator indicating that the packet is labeled. Upon receiving the labeled packet from the upstream label switching device, the downstream label switching device sets up the label switched path by adding the new label to its forwarding table, and forwards the packet based upon network layer addressing information in the packet. In order to remove the label switched path, the upstream label switching device forwards unlabeled packets to the downstream label switching device, and both devices remove the label from its respective forwarding table.

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